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10/751,723	01/05/2004	John M. Monk	10021131-1	2252

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EXAMINER	
RUTKOWSKI, JEFFREY M	

ART UNIT	PAPER NUMBER
2609	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/751,723	MONK, JOHN M.	
	Examiner	Art Unit	
	Jeffrey M. Rutkowski	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☒ Claim(s) *3-7,9,10,12,13,18,19,22-24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the abstract contains paragraph numbers, the word abstract is misspelled. In addition, the abstract should be written as a single paragraph. Correction is required. See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities: paper being classified as a Computer Readable Medium (CRM) **[0050]** is objected to since the computer is not actually reading the paper. After the paper is scanned, the computer is actually reading a digital representation of the paper and not the paper itself.

Appropriate correction is required.

Claim Objections

3. **Claims 3-7, 9, 10, 12, 13, 18, 19 and 22-24** are objected to because of the following informalities: the acronyms ART, CHAID, XML, HTTP and IP are not defined. The claims should define the meaning of the acronym. In addition, **claims 22-24** appear to further limit **claim 21**, not **claims 17-19 respectively**. Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 17-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The CRM as disclosed in the specification includes recording the

information on a signal carrier (The computer readable medium can be, for example but not limited to, an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, device, or propagation medium).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1, 2, 11, 17 and 21** are rejected under 35 U.S.C. 102(b) as being anticipated by Bahadiroglu (US Pg Pub 2002/0186660).

7. For **claim 1**, Bahadiroglu teaches an adaptive packet mechanism and method for optimizing data packet transmission through a network connection between a sending node and a receiving node **[abstract]**. Bahadiroglu teaches a single node can be a sending node, a receiving node, or perform both operations **[0107]**. Bahadiroglu teaches a sending module **12S** coupled to a receiving module **12R [0108 and figure 6A]** (a host analyzer communicatively coupled to a first client analyzer). Bahadiroglu teaches a Network Analyzer **48** may implemented as neural network **[0109]** (wherein the host analyzer incorporates a neural processing module to process raw digital data provided to the host analyzer by the first client analyzer for characterizing a packet-network-under-test that is connected to the first client analyzer).

8. For **claim 2**, Bahadiroglu discloses everything in **claim 1**. Bahadiroglu teaches a Packet Transfer Engine (PTE) is used to determine the transmission characteristics of Monitor Packets.

In addition, the PTE extracts network conditions of the current connection (i.e. available bandwidth, jitter and latency) **[0078 and figure 6A]** (a data collection element that receives the raw digital data from the first client analyzer). The network condition information is then sent to a Collector/Controller (C/C) **20C**, which determines the optimum packet size and inter-packet interval for the current network conditions **[0078]** (a data selection element that generates a selected data set from the raw digital data; a data processing element that processes the selected data set to generate a normalized data set). Bahadiroglu teaches the Adaptive Packet Mechanism **20** operates in a preliminary mode to train a neural network to be used in a network analyzer **48 [0112]** (wherein the neural processing module that processes the normalized data set to generate a set of rules and relationships). Bahadiroglu anticipates the use of a data mining module by disclosing a Result Database **40** used to store network condition information for archival purposes and subsequent use. The network condition information is stored as a set of Test Result Entries **40E [0135 and figure 6A]** (a data mining module that uses the set of rules and relationships to generate a mined data set from the selected data set, wherein the mined data set is used to characterize the packet-network-under-test).

9. For **claim 11**, Bahadiroglu teaches a Packet Transfer Engine (PTE) is used to determine the transmission characteristics of Monitor Packets. In addition, the PTE extracts network conditions of the current connection (i.e. available bandwidth, jitter and latency) **[0078 and figure 6A]** (receiving raw digital data that is derived from a packet-network-under-test). The network condition information is then sent to a Collector/Controller (C/C) **20C**, which determines the optimum packet size and inter-packet interval for the current network conditions **[0078]** (generating a selected data set from the received raw digital data generating a normalized

data set from the selected data set). Bahadiroglu teaches the Adaptive Packet Mechanism **20** operates in a preliminary mode to train a neural network to be used in a network analyzer **48** **[0112]** (processing the normalized data set in a neural network to generate a set of rules and relationships). Bahadiroglu teaches the use of a data mining module by disclosing a Result Database **40** used to store network condition information for archival purposes and subsequent use. The network condition information is stored as a set of Test Result Entries **40E [0135 and figure 6A]** (using the set of rules and relationships for mining the selected data set to generate a mined data set; and using the mined data set to characterize the packet-network-under-test).

10. For **claim 17**, Bahadiroglu teaches a Packet Transfer Engines (PTE) are used to determine the transmission characteristics of Monitor Packets. In addition, the PTE extracts network conditions of the current connection (i.e. available bandwidth, jitter and latency) **[0078 and figure 6A]** (logic configured to receive raw digital data that is derived from a packet-network-under-test). The network condition information is then sent to a Collector/Controller (C/C) **20C**, which determines the optimum packet size and inter-packet interval for the current network conditions **[0078]** (logic configured to generate a selected data set from raw digital data of the packet-network-under-test; logic configured to generate a normalized data set from the selected data set). Bahadiroglu teaches the Adaptive Packet Mechanism **20** operates in a preliminary mode to train a neural network to be used in a network analyzer **48 [0112]** (logic configured to process the normalized data set in a neural network to generate a set of rules and relationships). Bahadiroglu anticipates the use of a data mining module by disclosing a Result Database **40** used to store network condition information for archival purposes and subsequent use. The network condition information is stored as a set of Test Result Entries **40E [0135 and**

figure 6A] (logic configured to use the set of rules and relationships for mining the selected data set to generate a mined data set; and logic configured to use the mined data set to characterize the packet-network-under-test).

11. For **claim 21**, Bahadiroglu teaches a Packet Transfer Engines (PTE) are used to determine the transmission characteristics of Monitor Packets. In addition, the PTE extracts network conditions of the current connection (i.e. available bandwidth, jitter and latency) **[0078 and figure 6A]** (means for receiving raw digital data that is derived from a packet-network-under-test). The network condition information is then sent to a Collector/Controller (C/C) **20C**, which determines the optimum packet size and inter-packet interval for the current network conditions **[0078]** (means for generating a selected data set from raw digital data of the packet-network-under-test; means for generating a normalized data set from the selected data set). Bahadiroglu teaches the Adaptive Packet Mechanism **20** operates in a preliminary mode to train a neural network to be used in a network analyzer **48 [0112]** (means for processing the normalized data set using a neural network to generate a set of rules and relationships). Bahadiroglu teaches the use of a data mining module by disclosing a Result Database **40** used to store network condition information for archival purposes and subsequent use. The network condition information is stored as a set of Test Result Entries **40E [0135 and figure 6A]** (means for using the set of rules and relationships for mining the selected data set to generate a mined data set; and means for using the mined data set to characterize the packet-network-under-test).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bahadiroglu as applied to **claim 2** above, and further in view of Anstey et al. (US Pat 6,639,900).

15. The teachings of Bahadiroglu from **claim 1**, disclose a neural network. Bahadiroglu does not teach the use of a specific neural classifier. Anstey teaches the Adaptive Resonance Theory (ART) limitation absent from the teachings of Bahadiroglu by disclosing the use of ART classification scheme in a neural network **[abstract]**.

16. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use ART in Bahadiroglu's invention to develop stable clusterings of arbitrary sequences of input patterns by self-organization.

17. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bahadiroglu as modified by Anstey as applied to **claim 3** above, and further in view of Schmidt (US PgPub 2002/0049720).

18. The combination of Bahadiroglu and Anstey does not teach the use of an Chi Squared Automatic Interaction Detection (CHAID) scheme. Schmidt teaches the CHAID scheme absent from the teachings of Bahadiroglu and Anstey by disclosing common data mining methods include the use of CHAID algorithms **[0006]** (wherein the neural processing module further comprises a rules and relationship extraction module that uses a modified CHAID scheme).

19. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a CHAID algorithm in Bahadiroglu's invention to determine which data attributes should be the focus of pattern extraction to obtain significant results.

20. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bahadiroglu as applied to **claim 2** above, and further in view of Anstey and Schmidt.

21. Bahadiroglu does not teach ART or CHAID algorithms are used in the network analyzer **48**. Anstey teaches the ART limitation absent from the teachings of Bahadiroglu by disclosing the use of ART classification scheme in a neural network. Schmidt teaches the CHAID scheme absent from the teachings of Bahadiroglu by disclosing common data mining methods include the use of CHAID algorithms **[0006]** (wherein the neural processing module processes the normalized data set using ART, and the set of rules and relationships is generated by the neural processing module using a modified CHAID scheme).

22. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use ART in Bahadiroglu's invention for classifying network nodes. It also would

have been obvious to a person of ordinary skill in the art at the time of the invention to use a CHAID algorithm in Bahadiroglu's invention to determine which data attributes should be the focal point.

23. **Claims 6-8 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bahadiroglu as modified by Anstey and Schmidt as applied to **claim 5** above, and further in view of Adhikari et al. (US PgPub 2004/0252646).

24. For **claim 6**, Bahadiroglu teaches a script file is used to control the operations of an Adaptive Packet Mechanism **[0117]**. Bahadiroglu does not teach the use of Extensible Markup Language (XML). Adhikari teaches the XML limitation absent from the teachings of Bahadiroglu by disclosing XML can be used to describe the type of testing, traffic, control or other parameter(s) to be used during traffic generation **[0094]** (wherein the first client analyzer uses XML to transport the raw digital data of the packet-network-under-test to the data collection element).

25. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use XML in Bahadiroglu's invention to script out a program that makes network testing easier.

26. For **claim 7**, the combination of Bahadiroglu, Anstey, Schmidt and Adhikari teach everything in **claim 6**. Bahadiroglu further teaches the PTE operates as a data communications protocol stack mechanisms, namely the Transmission Control Protocol / Internet Protocol (TCP/IP) stack **[0081]** (wherein the packet-network- under-test is an IP network).

27. For **claim 8**, the combination of Bahadiroglu, Anstey, Schmidt and Adhikari teach everything in **claim 6**. Bahadiroglu further teaches the network connections can be two devices

connected through the Internet **[0069]** (wherein the packet-network- under-test is a subnet of the Internet).

28. For **claim 10**, the combination of Bahadiroglu, Anstey, Schmidt and Adhikari teach everything in **claim 6**. Bahadiroglu further teaches the designation of a sending node and receiving node are for illustrative purposes only. A router, for example, could perform both transmit and receive functions. The router could receive packets from one node and transfer the packets onto another node **[0074 and figure 2]**. Adhikari further teaches the monitoring and analysis system can be configured to support a web-based (HTTP) interface **[abstract]**. Adhikari further teaches XML scripts can be used to describe the type of testing, traffic, control or other parameter(s) to be used during traffic generation **[0094]** (wherein the host analyzer is communicatively coupled to a second client analyzer that is communicatively coupled via a packet network to a third client analyzer, and wherein the third client analyzer uses XML over HTTP to transmit raw digital data to the second client analyzer for characterizing a second packet-network-under-test that is connected to the third client analyzer).

29. **Claims 9, 12, 18 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bahadiroglu as applied to **claims 2, 11 and 17 respectively** above, and further in view of Adhikari.

30. For **claim 9**, Bahadiroglu teaches everything in **claim 2**. Bahadiroglu teaches a node **12** can be comprised of a computer, network server (HTTP server), or router **[0073]**. Bahadiroglu does not teach the use of XML. Adhikari teaches the XML limitation absent from the teachings of Bahadiroglu by disclosing XML can be used to describe the type of testing, traffic, control or other parameter(s) to be used during traffic generation **[0094]** (wherein the data collection

element of the host analyzer comprises a HTTP server using XML to communicatively couple the host analyzer via a packet network to the first client analyzer, and wherein the first client analyzer uses XML to transport the raw digital data of the packet-network-under-test to the host analyzer; claim 22: wherein the means for receiving raw digital data incorporates the use of XML over HTTP as a transmission protocol).

31. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use XML in Bahadiroglu's invention to script out a program that makes network testing easier.

32. For **claims 12, 18 and 22**, Bahadiroglu teaches everything in **claims 11 and 17 respectively**. Bahadiroglu does not teach the use of XML over HTTP as a transmission protocol. Adhikari teaches the XML over HTTP limitation absent from the teachings of Bahadiroglu by disclosing the monitoring and analysis system can be configured to support a web-based (HTTP) interface **[abstract]** and XML scripts can be used to describe the type of testing, traffic, control or other parameter(s) to be used during traffic generation **[0094]** (claim 12: wherein the step of receiving raw digital data incorporates the use of XML over HTTP as a transmission protocol; claim 18: wherein the logic configured to receive raw digital data incorporates the use of XML over HTTP as a transmission protocol).

33. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use XML over HTTP in Bahadiroglu's invention to provide web services for the analyzed environment.

34. **Claims 13-16, 19-20 and 23-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bahadiroglu as modified by Adhikari as applied to **claims 12 and 18 respectively** above, and further in view of Anstey and Schmidt.

35. For **claims 13, 19 and 23**, the combination of Bahadiroglu and Adhikari teach everything in **claims 12 and 18 respectively**. The combination of Bahadiroglu and Adhikari do not teach the use of ART or CHAID algorithms. Anstey teaches the ART limitation absent from the teachings of Bahadiroglu by disclosing the use of ART classification scheme in a neural network. Schmidt teaches the CHAID scheme absent from the teachings of Bahadiroglu by disclosing common data mining methods include the use of CHAID algorithms **[0006]** (claim 13: the normalized data set is generated using ART, and the set of rules and relationships is generated using a modified CHAID scheme; claim 19: wherein the logic configured to generate the normalized data set uses ART, and the logic configured to process the normalized data set in the neural network uses a modified CHAID scheme; claim 23: wherein the means for generating the normalized data set uses ART, and the means for processing the normalized data set using the neural network uses a modified CHAID scheme).

36. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use ART in Bahadiroglu's invention for classifying network nodes. It also would have been obvious to a person of ordinary skill in the art at the time of the invention to use a CHAID algorithm in Bahadiroglu's invention to determine which data attributes should be the focal point.

37. For **claim 14**, the combination of Bahadiroglu, Adhikari, Anstey and Schmidt teach everything in **claim 13**. Bahadiroglu further teaches network conditions of the current

connection are extracted (i.e. available bandwidth, jitter and latency) **[0078 and figure 6A]** (wherein characterizing the packet-network-under-test comprises generating a performance metric of transmission of data packets through the packet-network-under-test).

38. For **claim 15**, the combination of Bahadiroglu, Adhikari, Anstey and Schmidt teach everything in **claim 14**. Bahadiroglu further teaches the PTE operates as a data communications protocol stack mechanisms, namely the Transmission Control Protocol / Internet Protocol (TCP/IP) stack **[0079]** (wherein the packet-network-under-test is an IP network).

39. For **claims 16, 20 and 24**, the combination of Bahadiroglu, Adhikari, Anstey and Schmidt teach everything in **claims 14 and 19 respectively**. Bahadiroglu further teaches the network connections can be two devices connected through the Internet **[0069]** (claim 16: wherein the packet-network-under-test is a subnet of the Internet; claim 20: wherein the logic configured to receive raw digital data incorporates logic to interface to the Internet; claim 24: wherein the means for receiving raw digital data incorporates means to interface to the Internet).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey M. Rutkowski whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles D. Garber can be reached on (571)270-1202. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMR

Yuwen Pan